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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,542	08/31/2001	Susumu Shibata	213147US2	7594

22850 7590 10/13/2004

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1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

LIANG, REGINA

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 10/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/942,542	SHIBATA ET AL.	
	Examiner	Art Unit	
	Regina Liang	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-14 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 15-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/30/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (Figs. 16-18, and page 1, line 17 to page 7, line 17 of the specification, hereinafter admitted prior art) in view of Lee (US. PUB. NO. 2001/0038372) .

As to claims 1 and 10, Fig. 18 of the admitted prior art discloses a LCD device comprising image data inputting means (14), image data memory (2), corrected data generating means (3) and liquid crystal driving means (4). The admitted prior art does not disclose the image data memory storing image data comprising a number of bits which is fewer than the number of bits in the image data input means. However, Lee teaches a data gray signal modifier (400 in Fig. 11) comprising a frame memory (460) storing image data having less number of bits (e.g., 6 bits) than the number of bits (e.g., 8 bits) inputting to the data gray signal converter (see sections [0094]-[0106]). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image data memory of the admitted prior art to store image data having a number of bits which is fewer than the number of bits inputting to the image data input means as taught by Lee since the less the number of the bits of the image data

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stored in the memory becomes the less capacity of the memory becomes necessary (section [0106] of Lee).

As to claims 2 and 11, Lee teaches two bits starting from the LSB among 8-bit gray signal inputted to the data gray signal modifier are not modified, which implies that 6 bits of MSB among 8-bit gray signal inputted to the data gray signal modifier are modified (this corresponds to extracting the most significant bits of the image data input to the image data inputting means).

As to claims 3, 5, 12, 14, the admitted prior art (page 7, lines 9-15) discloses a look-up table is provided for reading out corrected data according to the relationship between the previous image data and the current image data (this corresponds to the reference table as claimed).

As to claims 4, 13, Lee teaches the number of bits of image data stored in the memory is set on the basis of the gray scale data and the display luminosity characteristics of the LCD device (sections [0112] to [0116]).

3. Claims 1-3, 5, 10-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (Figs. 16-18, and page 1, line 17 to page 7, line 17 of the specification, thereafter admitted prior art) in view of Moller (US. APT. NO. 5,434,957).

As to claims 1, 10, As to claims 1 and 10, Fig. 18 of the admitted prior art discloses a LCD device comprising image data inputting means (14), image data memory (2), corrected data generating means (3) and liquid crystal driving means (4). The admitted prior art does not disclose the image data memory storing image data comprising a number of bits which is fewer

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than the number of bits in the image data input means. However, Moller suggests number of bits of data stored in the memory could be less than the number of bits used to describe color such as using the most significant 6 bits of 8-bit of each color component to provide a table (see col. 5, lines 27-35). Thus, in view of Moller's suggestion, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the admitted prior art to store fewer number of bits in the memory than the number of bits in the image data input means because it would speed the LUT generation process and reduce the memory capacity needed.

As to claims 2 and 11, Moller teaches using the most significant 6 bits of 8-bit of each color component to provide a table (this corresponds to extracting the most significant bits of the image data input to the image data inputting means).

As to claims 3, 5, 12, 14, the admitted prior art (page 7, lines 9-15) discloses a look-up table is provided for reading out corrected data according to the relationship between the previous image data and the current image data (this corresponds to the reference table as claimed).

Allowable Subject Matter


4. Claims 6-9, 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (703) 305-4719. The examiner can normally be reached on Monday-Friday from 9AM to 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


REGINA LIANG
PRIMARY EXAMINER
ART UNIT 2674

RL
9/17/04
